APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/155,398	02/02/1999	CHOONG SENG BOON	1489/P158730	8585

7590   04/02/2002

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EXAMINER
LEE, Y YOUNG

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 04/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary

Application No.	Applicant(s)
09/155,398	Choong Seng Boon
Examiner	Art Unit
Y. Lee	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___*3*___ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Mar 18, 2002*

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-3, 6, 7, and 22-34* is/are pending in the application.

    4a) Of the above, claim(s) _____ is/are withdrawn from consideratio

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3, 6, 7, and 22-34* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requiremen

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *Mar 13, 2002* is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

    a) ☒ All b)☐ Some* c)☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    *See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Response to Amendment

1.   Applicant's request for reconsideration of the finality of the rejection of the last Office

action is persuasive and, therefore, the finality of that action is withdrawn.

Priority

2.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers

have been placed of record in the file.

Drawings

3.   The drawings are objected to because Figure 16, element 920c1, "means" should be

changed to --device--. Correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5.   Claims 1-3, 6, 7, and 22-34 are rejected under 35 U.S.C. 102(e) as being anticipated by

Eifrig et al (6,026,195).

        Eifrig et al (6,026,195), in Figures 6 and 12, discloses the same data recording medium

for storing a program which makes a computer perform padding of pixel values to an interlaced

digital image signal forming an original image space including an image having an arbitrary

shape and containing significant pixels and insignificant pixels as specified in claims 1-3, 6, 7,

and 22-34 of the present invention, comprising the steps of dividing the original image

space 1100 into a first small image space 1220 comprising pixels on odd-numbered pixels rows

in the original image space 1100 and a second small image space 1210 comprising pixels on

even-numbered pixel rows in the original image space 1100 so that a pixel value correlation

within the small image spaces becomes higher than a pixel value correlation within the original

image space 1100; sampling is performed by extracting pixels every (N+1)th pixel in a

prescribed direction (field) of the original image space 1100 (N+1) times by using the first to the

(N+1) pixels as starting sample pixel, to form (N+1) pieces of small image spaces each

comprising a prescribed number of pixels obtained by one padding; and sampling is continuously

performed twice using the first and second pixel rows as starting sample pixel rows, by

extracting pixels on every other pixel row in the vertical direction of the original image

space 1100, to form first 1220 and second 1210 small image spaces each comprising a prescribed

number of pixels obtained by first and second samplings, respectively; wherein operation values

obtained by performing operation on values of significant pixels (shaded) in an n-th small image

space are used as the padding pixel values for replacing the values of insignificant pixels

(unshaded) in the n-th small image space; and generating first padding pixel values from values

of significant pixels in the first small image space and replacing values of insignificant pixels in

the first small image space with the first padding pixel values, and generating second padding

pixel values from values of significant pixels in the second small image space and replacing

values of insignificant pixels in the second small image space with the second padding pixel

values.

6.   Claims 1-3, 6, 7, and 22-34 are also rejected under 35 U.S.C. 102(e) as being anticipated

by Lee (6,259,732 B1).

         Lee (6,259,732 B1), in Figure 3, discloses the same data recording medium for storing a

program which makes a computer perform padding of pixel values to an interlaced digital image

signal forming an original image space including an image having an arbitrary shape and

containing significant pixels and insignificant pixels as specified in claims 1-3, 6, 7, and 22-34 of

the present invention, comprising the steps of dividing the original image space BB into a first

small image space B comprising pixels on odd-numbered pixels rows in the original image space

BB and a second small image space T comprising pixels on even-numbered pixel rows in the

original image space BB so that a pixel value correlation within the small image spaces becomes

higher than a pixel value correlation within the original image space BB; sampling is performed

by extracting pixels every (N+1)th pixel in a prescribed direction (field) of the original image

space BB (N+1) times by using the first to the (N+1) pixels as starting sample pixel, to form

(N+1) pieces of small image spaces each comprising a prescribed number of pixels obtained by

one padding; and sampling is continuously performed twice using the first and second pixel rows

as starting sample pixel rows, by extracting pixels on every other pixel row in the vertical

direction of the original image space BB, to form first B and second T small image spaces each

comprising a prescribed number of pixels obtained by first and second samplings, respectively;

wherein operation values obtained by performing operation on values of significant pixels

(shaded) in an n-th small image space are used as the padding pixel values for replacing the

values of insignificant pixels (unshaded) in the n-th small image space; and generating first

padding pixel values from values of significant pixels in the first small image space and

replacing values of insignificant pixels in the first small image space with the first padding pixel

values, and generating second padding pixel values from values of significant pixels in the

second small image space and replacing values of insignificant pixels in the second small image

space with the second padding pixel values.

7.   Claims 1-3, 6, 7, and 22-34 are further rejected under 35 U.S.C. 102(e) as being

anticipated by Horiike (6,092,130).

        Horiike (6,092,130), in Figures 16 and 17, discloses the same data recording medium for

storing a program which makes a computer perform padding of pixel values to an interlaced

digital image signal forming an original image space including an image having an arbitrary

shape and containing significant pixels and insignificant pixels as specified in claims 1-3, 6, 7,

and 22-34 of the present invention, comprising the steps of dividing the original image space

S1501 into a first small image space S15011 comprising pixels on odd-numbered pixels rows in the original image space S1501 and a second small image space S15018 comprising pixels on even-numbered pixel rows in the original image space S1501 so that a pixel value correlation within the small image spaces becomes higher than a pixel value correlation within the original image space S1501; sampling is performed by extracting pixels every (N+1)th pixel in a prescribed direction (field) of the original image space S1501 (N+1) times by using the first to the (N+1) pixels as starting sample pixel, to form (N+1) pieces of small image spaces each comprising a prescribed number of pixels obtained by one padding; and sampling is continuously performed twice using the first and second pixel rows as starting sample pixel rows, by extracting pixels on every other pixel row in the vertical direction of the original image space S1501, to form first S15011 and second S15018 small image spaces each comprising a prescribed number of pixels obtained by first and second samplings, respectively; wherein operation values obtained by performing operation on values of significant pixels (shaded) in an n-th small image space are used as the padding pixel values for replacing the values of insignificant pixels (unshaded) in the n-th small image space; and generating first padding pixel values (slashed) from values of significant pixels in the first small image space and replacing values of insignificant pixels in the first small image space with the first padding pixel values, and generating second padding pixel values from values of significant pixels in the second small image space and replacing values of insignificant pixels in the second small image space with the second padding pixel values.

8.   Claims 1-3, 6, 22-27, and 29-33 are rejected under 35 U.S.C. 102(e) as being anticipated

by Lee (5,990,956).

Lee (5,990,956), in Figure 2, discloses the same apparatus and method for storing a

program which makes a computer perform padding of pixel values to a digital image signal

forming an original image space including an image having an arbitrary shape and containing

significant pixels and insignificant pixels as specified in claims 1-3, 6, 22-27, and 29-33 of the

present invention, comprising the steps of dividing the original image space (input signal) into a

first small image space (image blocks) comprising pixels on rows in the original image space

(input signal) and a second small image space comprising pixels in the original image space

(input signal) so that a pixel value correlation within the small image spaces becomes higher than

a pixel value correlation within the original image space (input signal); sampling is performed by

extracting pixels every (N+1)th pixel in a prescribed direction (edgewise) of the original image

space (input signal) (N+1) times by using the first to the (N+1) pixels as starting sample pixel, to

form (N+1) pieces of small image spaces each comprising a prescribed number of pixels

obtained by one padding; and sampling is continuously performed twice using the first and

second pixel rows as starting sample pixel rows, by extracting pixels on every other pixel row in

the vertical direction of the original image space (input signal), to form first (input signal) and

second (input signal) small image spaces each comprising a prescribed number of pixels obtained

by first and second samplings, respectively; wherein operation values obtained by performing

operation on values of significant (object) pixels in an n-th small image space are used as the

padding (substitute) pixel values for replacing the values of insignificant (background) pixels in

the n-th small image space; and generating first padding pixel values from values of significant

pixels in the first small image space and replacing values of insignificant pixels in the first small

image space with the first padding pixel values, and generating second padding pixel values from

values of significant pixels in the second small image space and replacing values of insignificant

pixels in the second small image space with the second padding pixel values.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

10.   Claims 7, 28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee

in view of Murakami et al (EP 0 538 834 A2).

Although Lee discloses a pixel rearrangement in which the original image forms plural

small image blocks, it is noted Lee differs from the present invention in that it fails to particularly

disclose a division of the image into odd- and even-numbered pixel rows in an interlaced manner.

Murakami et al however, in Figures 5, 6, 14-20, and 23, teaches the concept of such well known

equivalent pixel arrangement techniques (3, 4, 9, 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, having both the references of Lee and Murakami et al before him/her, to

exploit the common pixel arrangement options as taught in Murakami et al in the image padding

method of Lee in order to provide high-efficient coding.

Response to Arguments

11.   Applicant's arguments with respect to claims 1-3, 6, 7, and 22-34 have been considered

but are moot in view of the new ground(s) of rejection.

Conclusion

12.   **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)
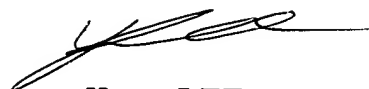
(for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Or:

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington. VA., Sixth Floor (Receptionist).

13.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Y. Lee whose telephone number is (703) 308-7584.

                                              Y.   LEE
                                    PRIMARY   EXAMINER

Y. Lee/yl
March 28, 2002